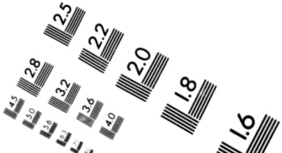
ICROCOPY RESOLUTION TEST CHART
NBS 1010a
(ANSI and ISO TEST CHART No. 2)

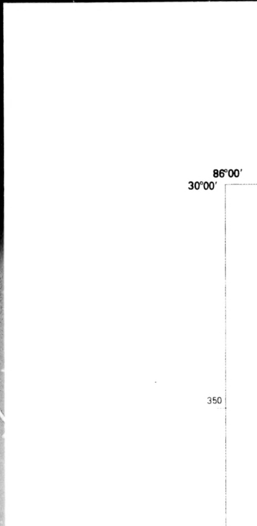

2.5
2.2
2.0
1.8
1.6
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3

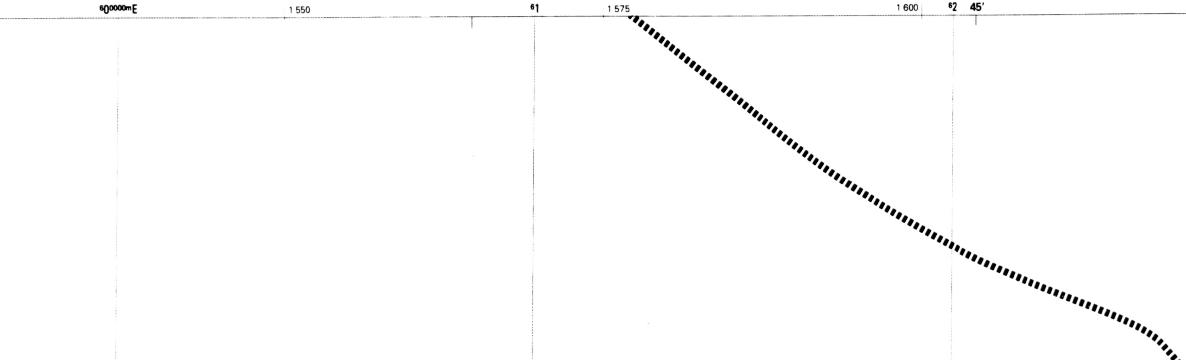
MICROCOPY RESOLUTION TEST

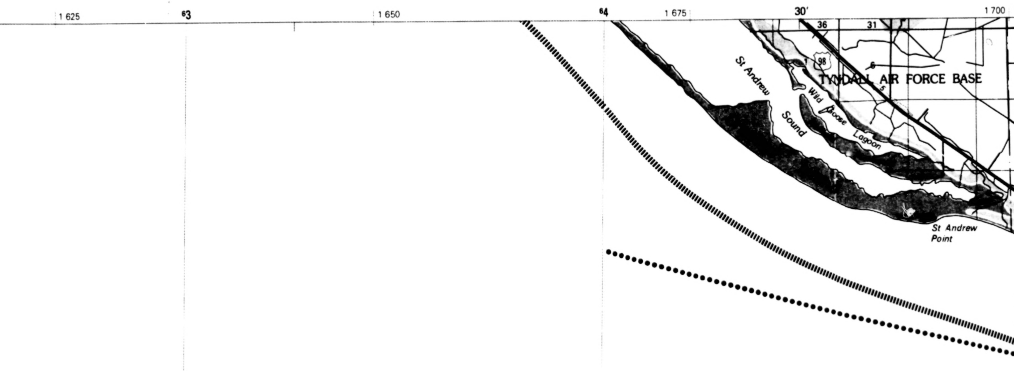
NBS 1010a

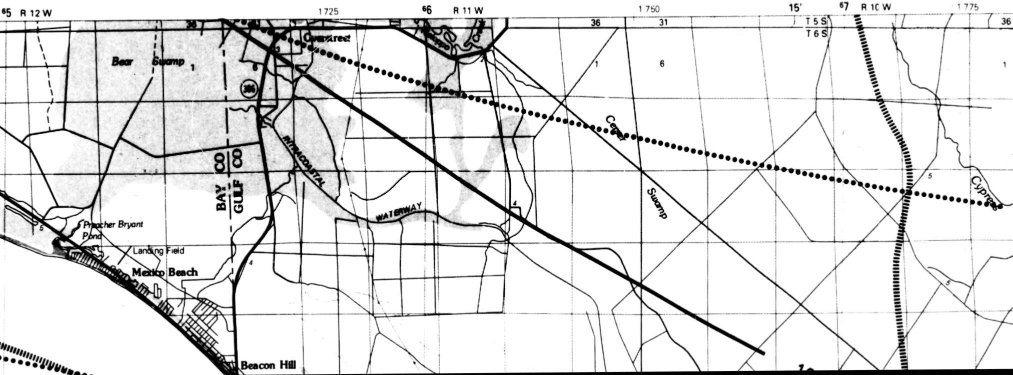
(ANSI and ISO TEST CHART

MICROCOPY RESOLUTION TEST CHART
NBS 1010a
(ANSI and ISO TEST CHART No. 2)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3


86°00′
30°00′
350


600000m E
1 550
61
1 575
1 600
62
45′


1 625
63
1 650
64
1 675
30′
1 700
36
31
98
6
5
TYNDALL AIR FORCE BASE
St Andrew Sound
Wild Goose Lagoon
St Andrew Point

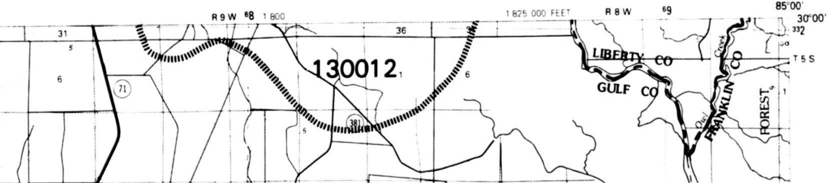

⁶5 R 12 W
1725
⁶6 R 11 W
1750
15′
⁶7 R 10 W
1775
36
31
36
T 5 S
T 6 S
Bear Swamp
Overstreet
386
1
6
1
6
1
BAY CO
GULF CO
INTRACOASTAL
WATERWAY
Cedar
Swamp
Cypress
Preacher Bryant Pond
Landing Field
Mexico Beach
Beacon Hill
5
4
4
5
5

## PORT SAINT JOE QUADRANGLE
## FLORIDA
## 1:100 000-SCALE SERIES (TOPOGRAPHIC)

MA

# P

# HY



R 9 W
68
1 800
1 825 000 FEET
R 8 W
69
85°00′
30°00′
332
T 5 S
31
36
5
6
130012
71
381
LIBERTY CO
GULF CO
FRANKLIN CO
Creek
Owl
FOREST
Robinson Bay
Brickyard Island
350 000 FEET
59″
NATIONAL
T 6 S
Cut Off
RAILROAD
Brickyard
RIVER

UG 14 '88 I 49. 89: 82/47-1/map E7

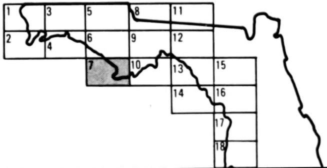
MMS 85-0011
FWS/OBS-82/47.1

P E7

# ort St. Joe

# FLORIDA ECOLOGICAL ATLAS

## YDROLOGY AND CLIMATOLOGY


1
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11
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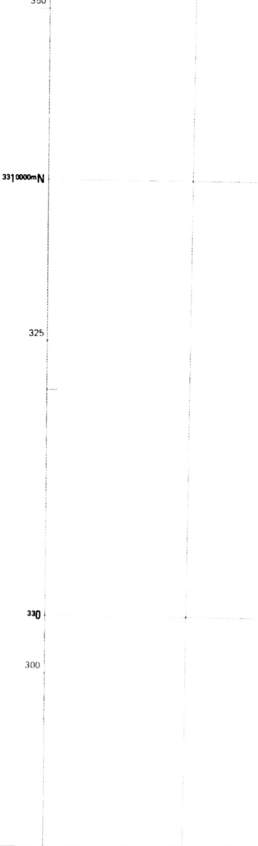
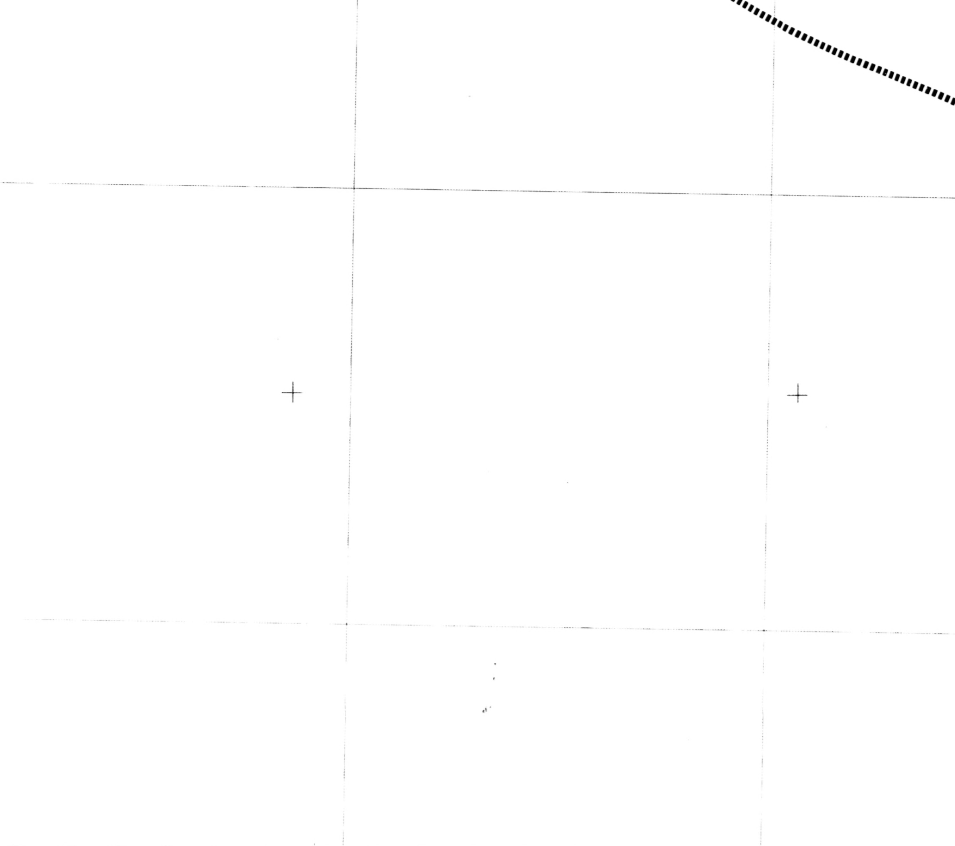
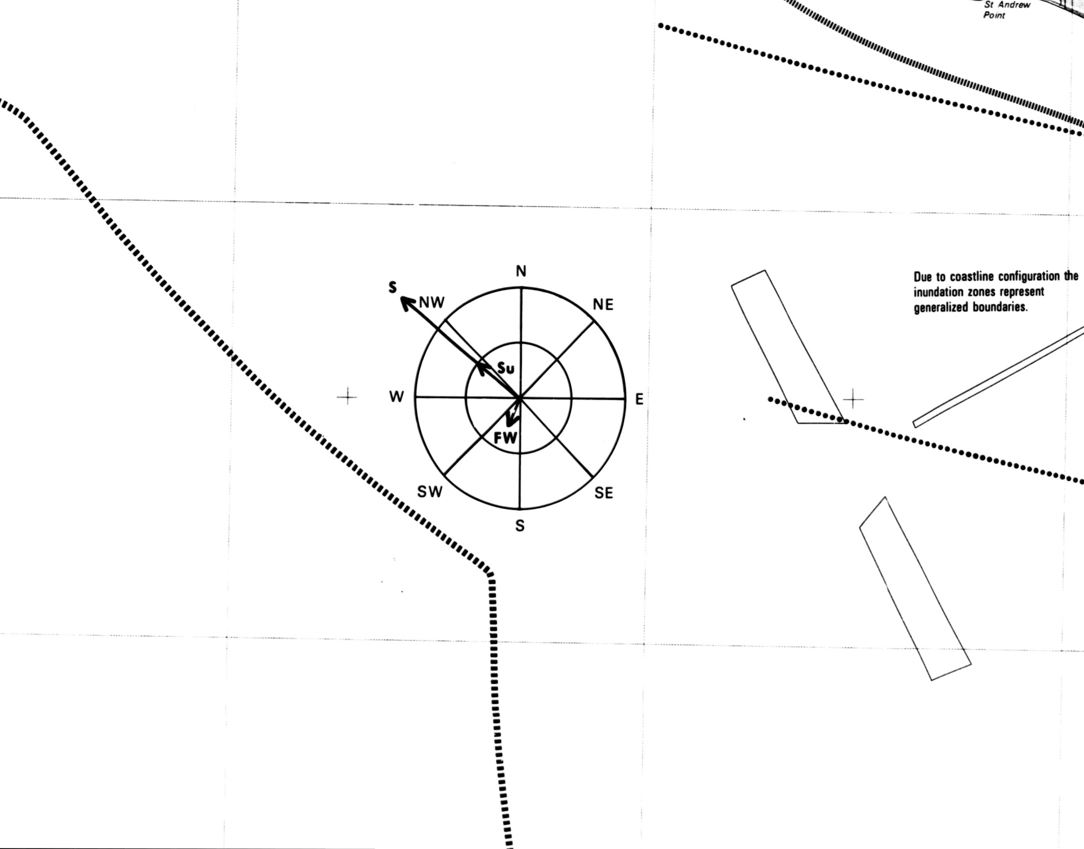
13
14
15
16
17
18

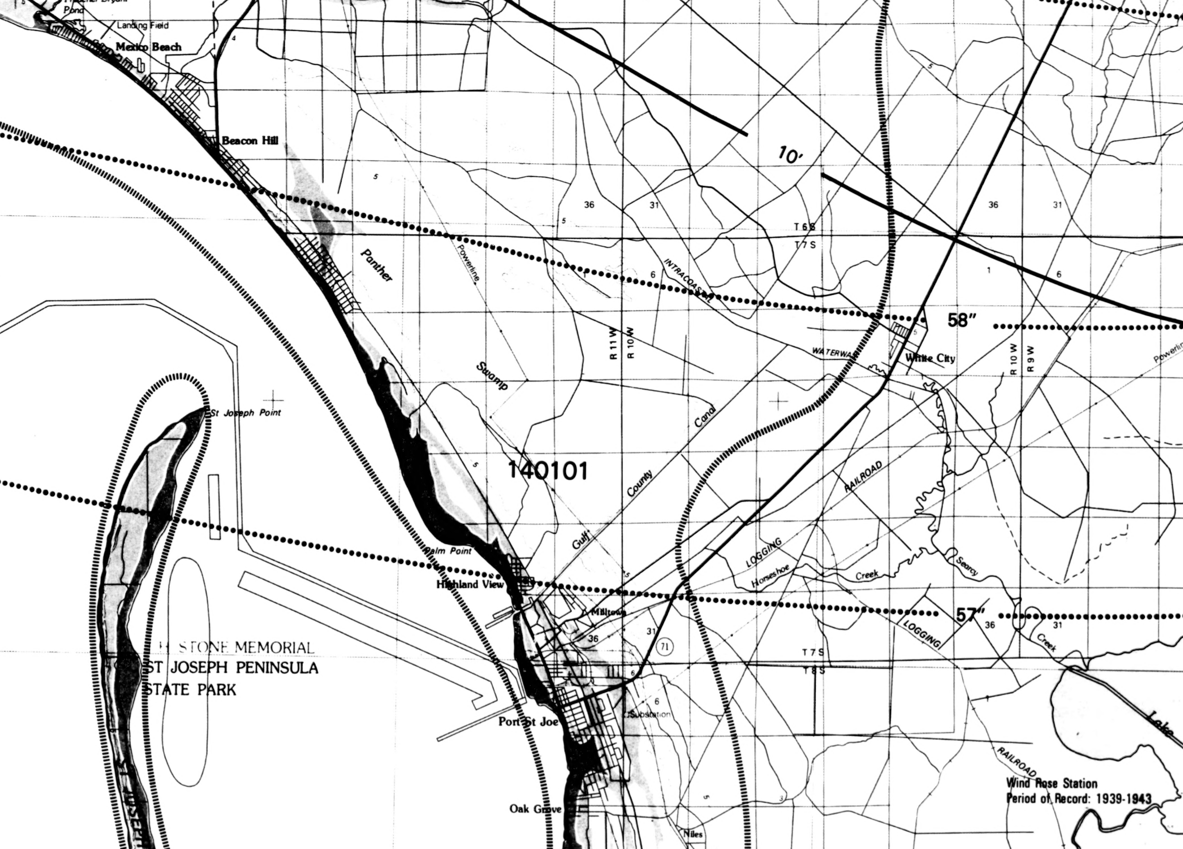
MICROCOPY RESOLUTION TEST CHART
NBS 1010a
(ANSI and ISO TEST CHART No. 2)
1.0 1.1 1.25 1.4 1.6 1.8 2.0 2.2 2.5 2.8 3.2 3.6 4.0 4.5

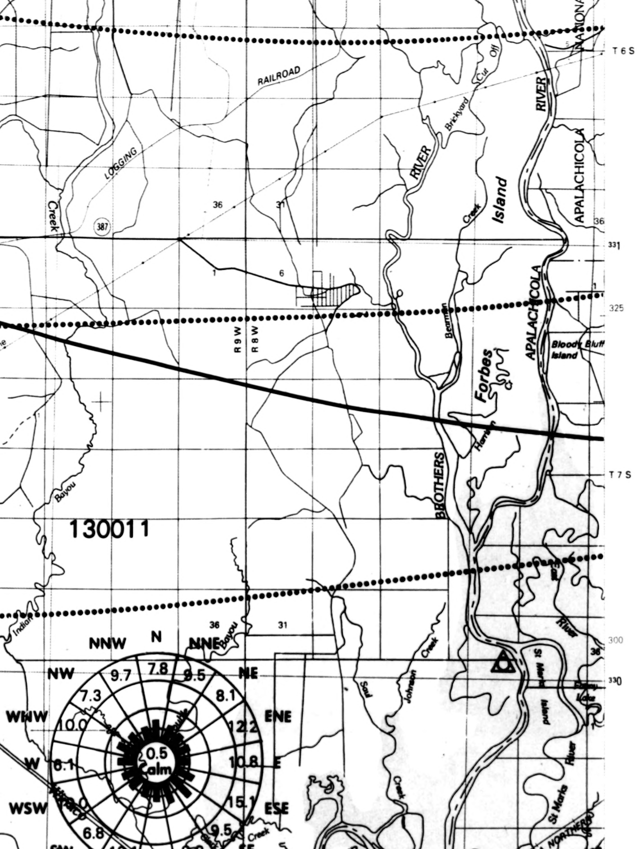

350
3310000mN
325
330
300

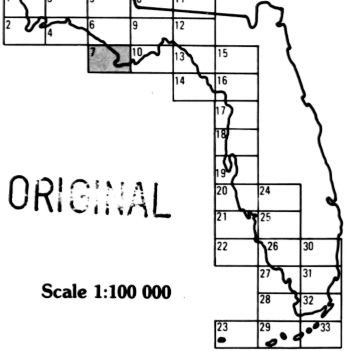



St Andrew
Point
N
NE
E
SE
S
SW
W
NW
S
Su
FW

Due to coastline configuration the inundation zones represent generalized boundaries.


Pond
Landing Field
Mexico Beach
Beacon Hill
Panther
Swamp
Powerline
10′
36
31
T 6 S
T 7 S
T 8 S
1
6
INTRACOASTAL
WATERWAY
58″
57″
R 11 W
R 10 W
R 9 W
White City
Powerline
St Joseph Point
140101
Gulf
County
Canal
RAILROAD
LOGGING
Horseshoe
Creek
Searcy
Creek
Palm Point
Highland View
Milltown
71
STONE MEMORIAL
ST JOSEPH PENINSULA
STATE PARK
Port St Joe
Substation
Oak Grove
Niles
Lake
Wind Rose Station
Period of Record: 1939-1943


T 6 S
RAILROAD
LOGGING
Creek
387
Brickyard
Cut Off
RIVER
Creek
Island
RIVER
APALACHICOLA
36
31
36
331
1
6
325
R 9 W
R 8 W
Beaman
Forbes
APALACHICOLA
Bloody Bluff Island
Harrison
BROTHERS
T 7 S
Bayou
130011
Indian
36
Bayou
31
River
300
Creek
Johnson
Saul
St Marks
Island
330
Fanny Lake
River
St Marks
Creek
NORTHERN
N
NNW
NNE
NW
NE
WNW
ENE
W
E
WSW
ESE
SE
9.7
7.8
9.5
7.3
8.1
10.0
12.2
0.5
Calm
10.8
8.1
15.1
6.8
9.5


2
4
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14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

ORIGINAL

**Scale 1:100 000**

## TOPICAL MAPS IN THIS ATLAS:

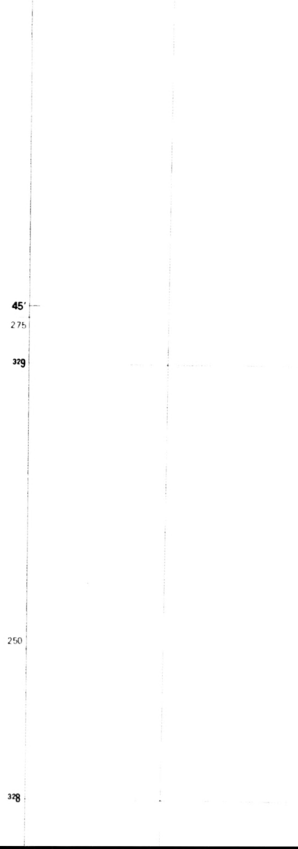
A. BIOLOGICAL RESOURCES
B. SOCIOECONOMIC FEATURES
C. SOILS AND LANDFORMS
D. OIL, GAS AND MINERALS
E. HYDROLOGY AND CLIMATOLOGY

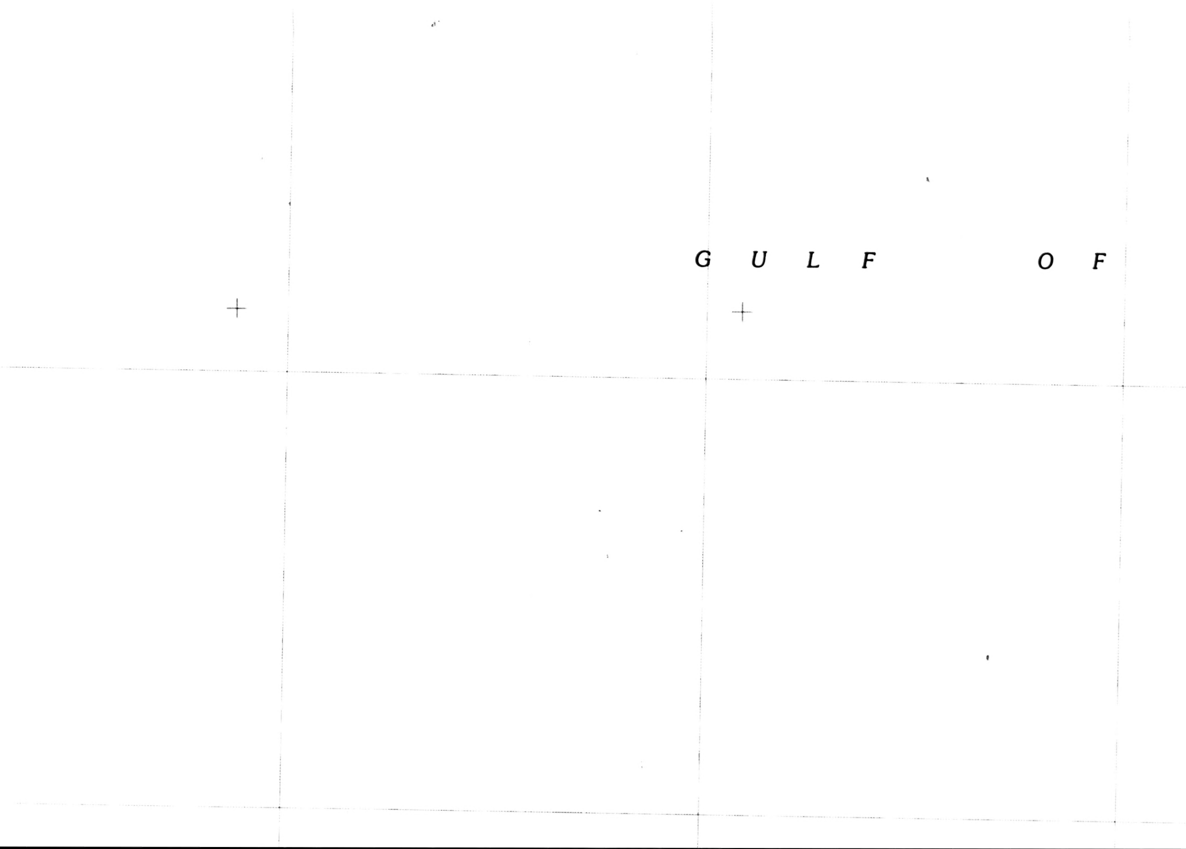
1984

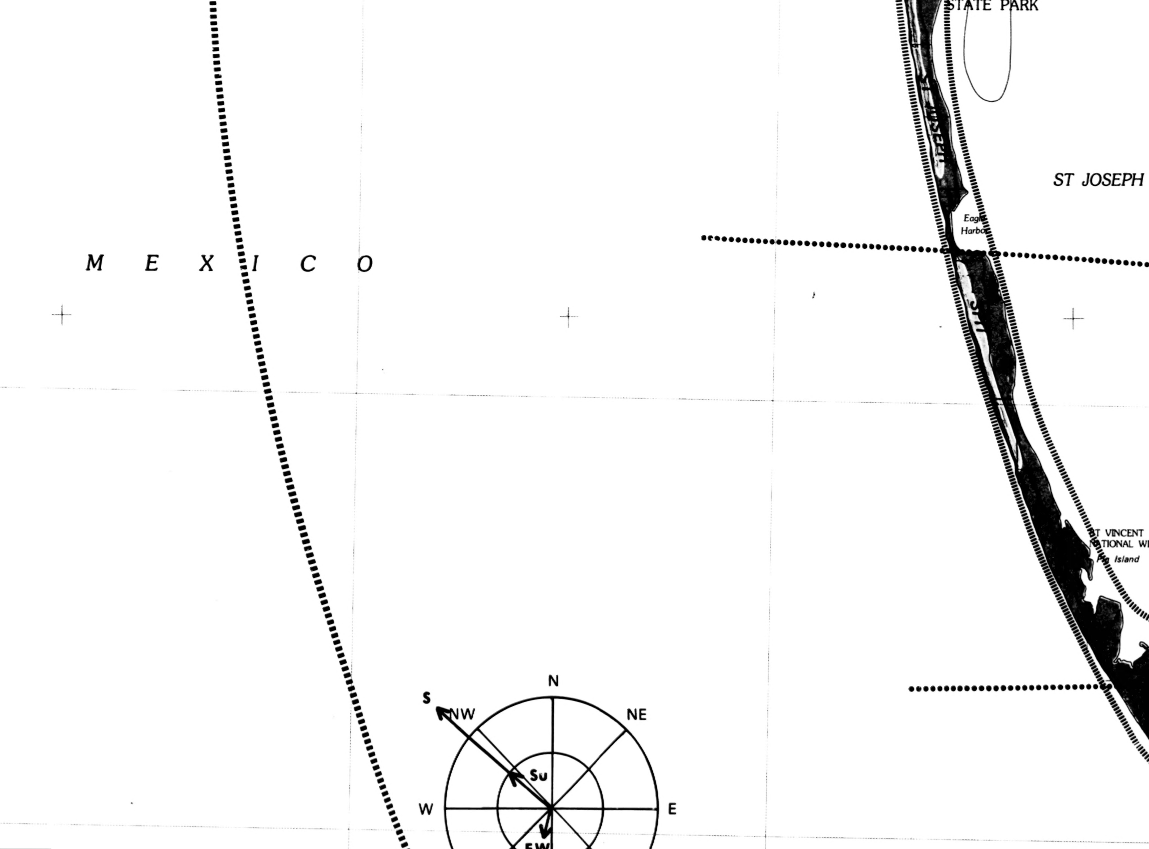
Produced by U.S. Fish and Wildlife
Service and Minerals Management Service

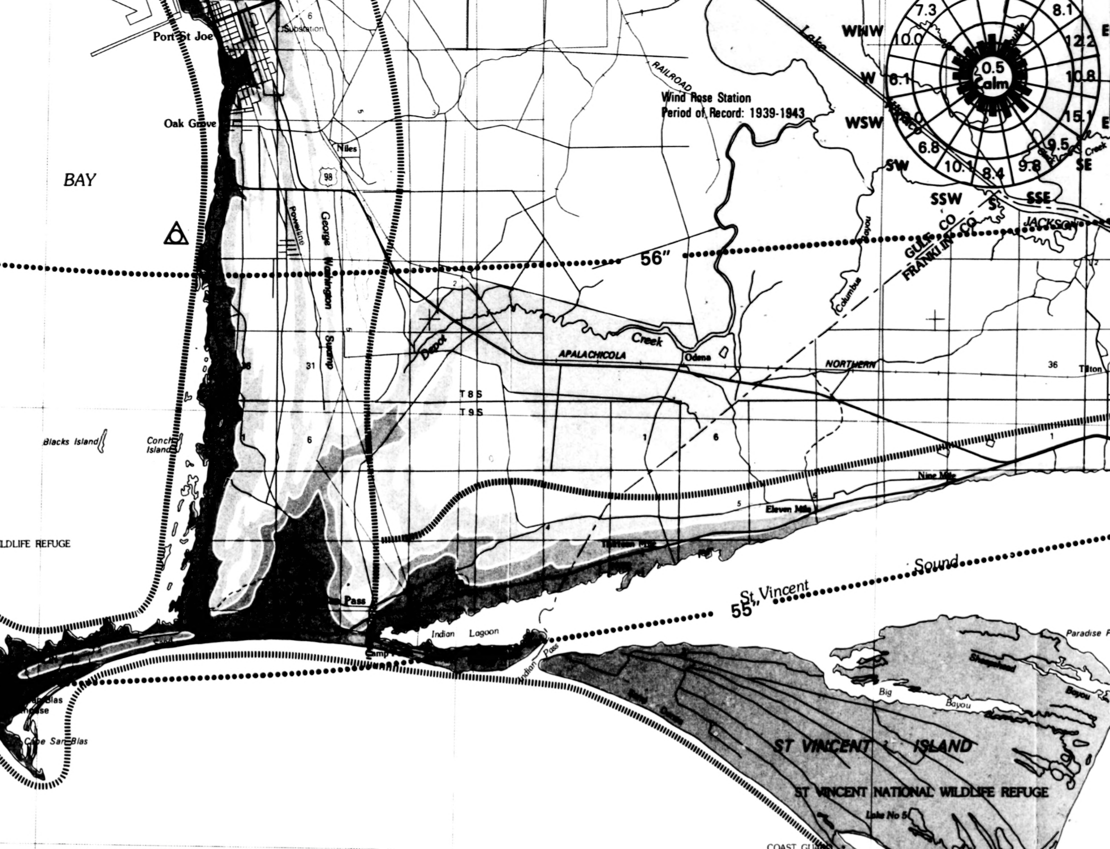
**Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator**
**25,000-foot grid ticks based on Florida coordinate system, west zone**

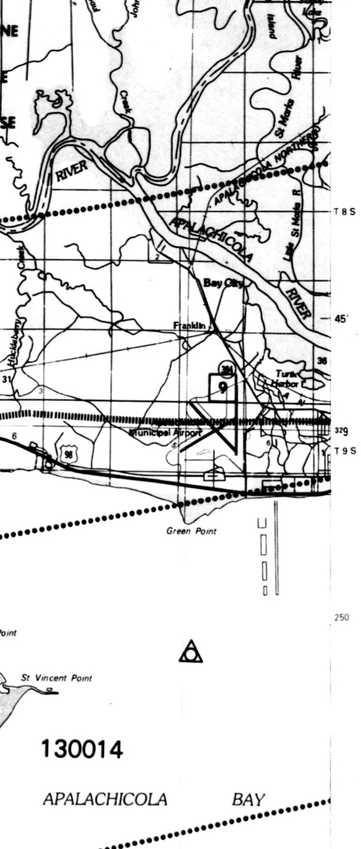
**Overlay material compiled in 1983 from**


45′
275
329
250
328




STATE PARK
ST JOSEPH
Eagl
Harbo
M E X I C O
ST VINCENT
NATIONAL WI
Pig Island
N
S
NW
NE
Su
W
E
FW


Port St Joe
Substation
Oak Grove
Niles
98
BAY
Powerline
George Washington Swamp
RAILROAD
Lake
Wind Rose Station
Period of Record: 1939-1943
WNW
W
WSW
SW
SSW
S
SSE
SE
7.3
8.1
10.0
12.2
0.5
Calm
10.8
6.1
15.1
6.8
10.1
8.4
9.8
9.5
Creek
GULF CO
FRANKLIN CO
JACKSON
56"
Bayou
Columbus
Depot
Creek
APALACHICOLA
NORTHERN
Odena
36
Tilton
T 8 S
T 9 S
31
1
6
5
Blacks Island
Conch Island
Nine Mile
Eleven Mile
Thirteen Mile
LDLIFE REFUGE
Pass
Indian Lagoon
Indian Pass
Camp
St Vincent
Sound
55"
Paradise P
Big
Bayou
Sheephead
Bayou
ST VINCENT ISLAND
ST VINCENT NATIONAL WILDLIFE REFUGE
Lake No 5
COAST GU
Cape San Blas


RIVER
APALACHICOLA NORTHERN
APALACHICOLA
RIVER
Creek
St Marks
River
Island
Lake
St Marks R
Little St Marks
Bay City
Franklin
Turtle Harbor
Hickleberry
Creek
Municipal Airport
Green Point
St Vincent Point
Point
T 8 S
T 9 S
45′
250
329
36
31
384
98
9
6
130014
APALACHICOLA
BAY

Produced by U.S. Fish and Wildlife
Service and Minerals Management Service

**Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator**
**25,000-foot grid ticks based on Florida coordinate system, west zone**

**Overlay material compiled in 1983 from latest available data obtained from Federal, State and Local government agencies and other sources.**

—50′— **POTENTIOMETRIC CONTOURS OF THE FLORIDAN AQUIFER**

The map represents dry season water levels present in tightly cased wells penetrating the Floridan Aquifer during May of 1980. The contour interval is 5 and 10 feet. Contour lines have been generalized to allow for non-simultaneous water level measurement and variable well depth.
Groundwater flow is down-gradient from potentiometric highs and perpendicular to potentiometric contour lines.
(Measured in feet above mean sea level)

••••52″•••• **MEAN ANNUAL ISOHYETAL (RAINFALL) CONTOURS**

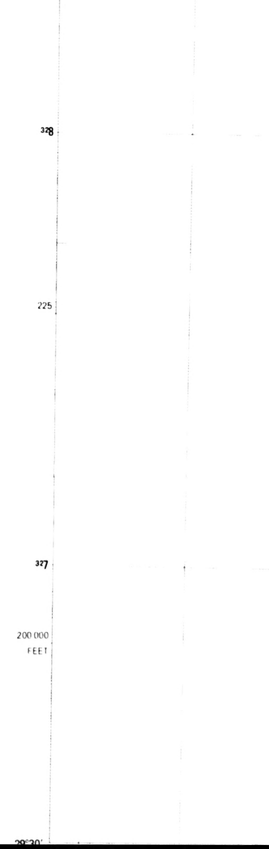
(1951-1980 National Weather Service Normal Base Period)
The contour interval is 1.0″ (refer to narrative for monthly isohyetal maps and for trend evaluation).

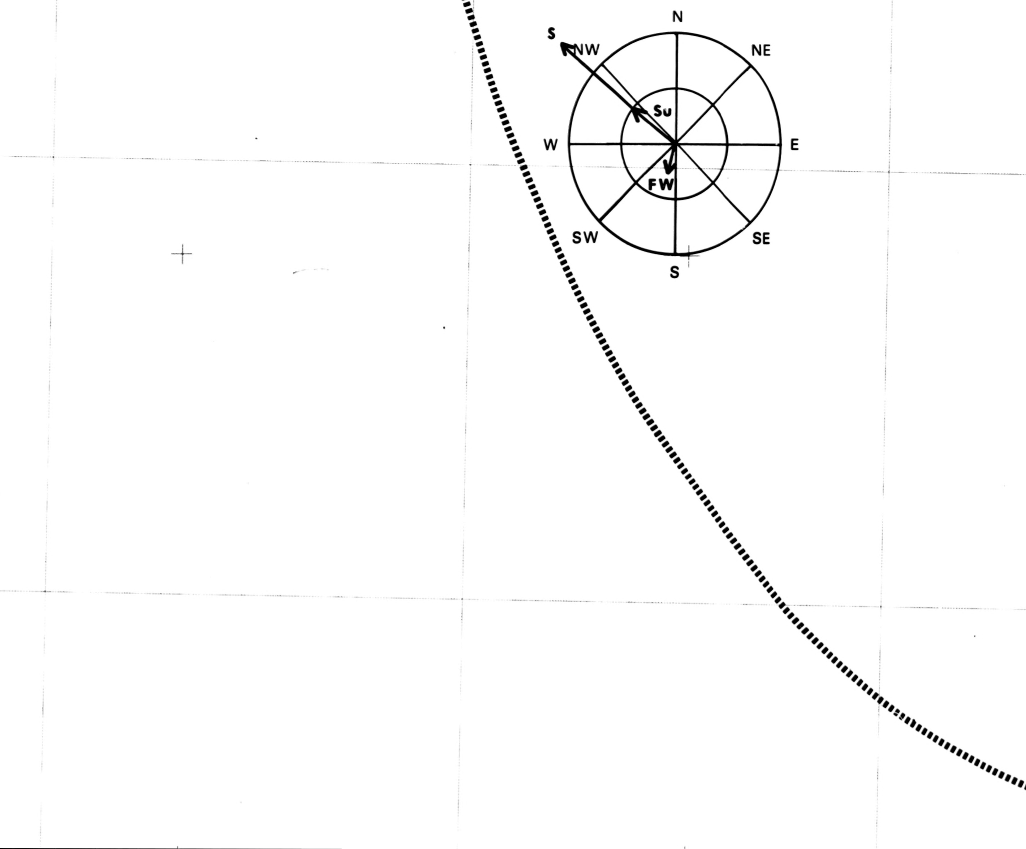
6 **NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION**

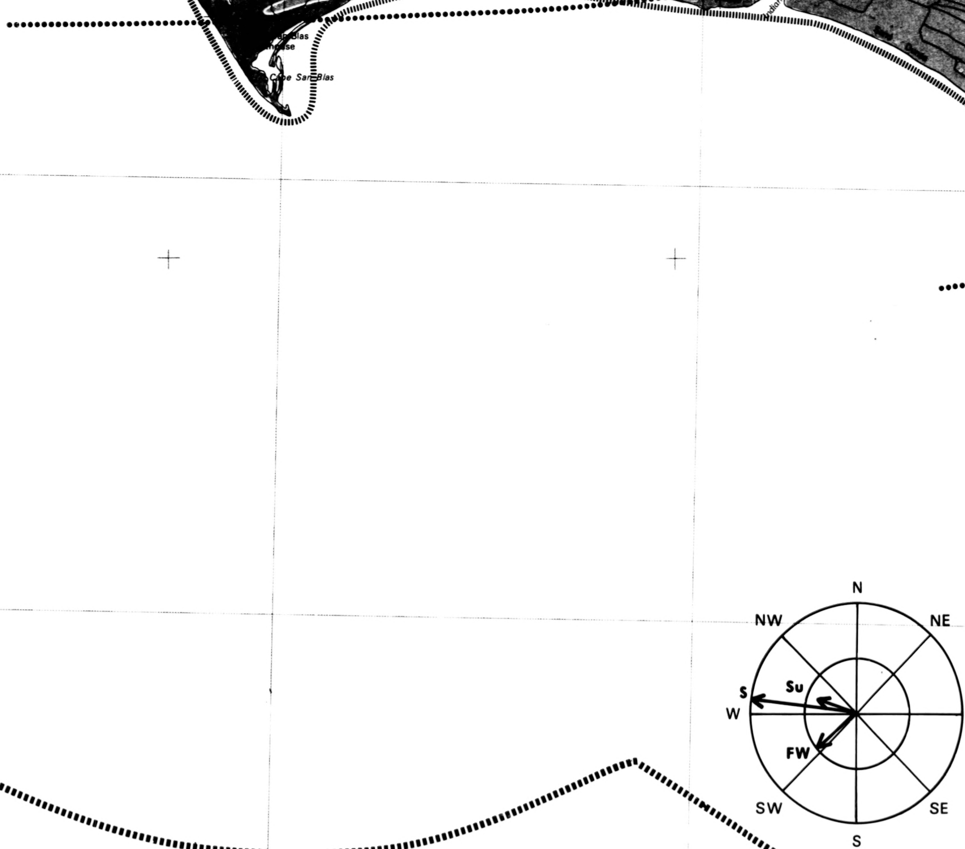
(Number in the box on map refers to station name in supplemental legend'

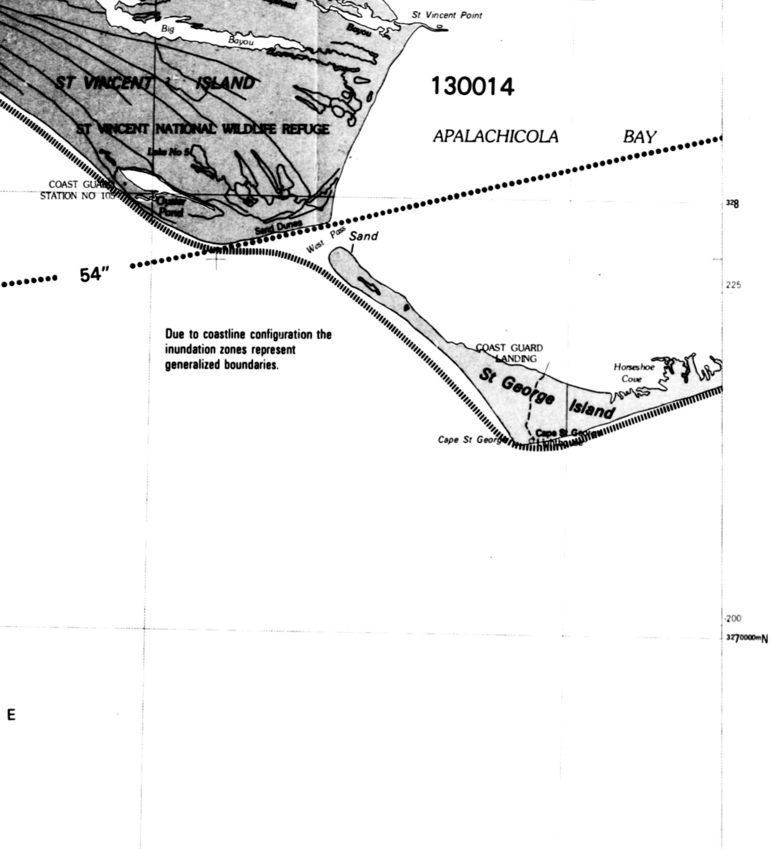
**WIND ROSE STATION**

Concentric circles represent 5% frequency interval. The average wind


328
225
327
200 000
FEET
29°30′


S
N
NW
NE
Su
W
E
FW
SW
SE
S


San Blas
house
Cape San Blas
N
NW
NE
S
Su
W
FW
SW
SE
S


St Vincent Point
Big
Bayou
Bayou
ST VINCENT ISLAND
ST VINCENT NATIONAL WILDLIFE REFUGE
130014
APALACHICOLA BAY
Lake No 5
COAST GUARD
STATION NO 105
Oyster Pond
Sand Dunes
West Pass
Sand
54"
COAST GUARD
LANDING
St George Island
Horseshoe
Cove
Cape St George
Cape St George
Lighthouse
328
225
200
3270000mN
E

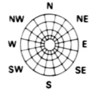
Due to coastline configuration the inundation zones represent generalized boundaries.

Normal Base Period)
The contour interval is 1.0" (refer to narrative for monthly isohyetal maps and for trend evaluation).

**6** **NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION**

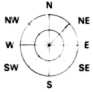
(Number in the box on map refers to station name in supplemental legend)

**WIND ROSE STATION**


N
NE
E
SE
S
SW
W
NW

Concentric circles represent 5% frequency interval. The average wind speed (mph) is listed in the outer quadrant of each vector direction (Wind rose data represents wind data that has been summarized by the National Climatic Center for Airports, Naval Air Stations and NWS Offices)

**OFFSHORE SURFACE CURRENT ROSE**


N
NE
E
SE
S
SW
W
NW

Resultant vectors for each season are shown. The magnitude of each vector is proportional to the velocity. (Concentric circles represent 3 centimeters/second currents)
Vectors defined by the New England Coastal Engineers Computer Model G.A.L.

| | |
|---|---|
| S | Spring |
| Su | Summer |
| FW | Fall/Winter |

**HURRICANE INUNDATION ZONES**

(Maximum areas subject to flooding by Storm Category, as defined by National Weather Service Computer Models)

| | |
|---|---|
| ▩ | Category #1 Storm (74-95 mph winds; probability of occurence 1:12 years) |
| ▨ | Category #2 Storm (96-110 mph winds; probability of occurence 1:20 years) |
| ☐ | Category #3 Storm (111-130 mph winds; probability of occurence 1:42 years) |
| ☐ | Category #4 Storm (131-155 mph winds; probability of occurence no historical record) |
| ☐ | Category #5 Storm ( > 155 mph winds; probability of occurence no historical record) |

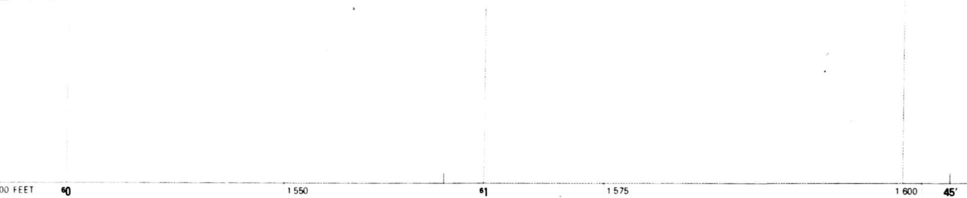
(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

29°30′
86°00′
1 525 0

THE FLORID
SERVICE, DI
TEAM (FWS
PLANNERS,
EVALUATE (
WILDLIFE RI
THE STUDY
OKALOOSA,
JEFFERSON
OFFSHORE
OR PRODUC
JURISDICTIO
THE GEOGR
AGENCIES.

THIS MAP H
INCLUDING
CONTAINED
FEATURES,
MEASUREM

MICROCOPY RESOLUTION TEST CHART
NBS 1010a
(ANSI and ISO TEST CHART No. 2)
1.0
1.1
1.25
1.4
2.8
3.2
3.6
4.0
2.5
2.2
2.0


00 FEET
60
1 550
61
1 575
1 600
45′

KILOMETERS 0 1
MILES 0 1

A ECOLOGICAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE
VISION OF BIOLOGICAL SERVICES, NATIONAL COASTAL ECOSYSTEMS
/OBS - 82/47) AND THE MINERALS MANAGEMENT SERVICE FOR COASTAL
DECISION MAKERS, AND THE GENERAL PUBLIC, TO DETERMINE AND
CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND
EQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY.
AREA INCLUDES THE COASTAL COUNTIES: ESCAMBIA, SANTA ROSA,
, WALTON, WASHINGTON, BAY, CALHOUN, GULF, FRANKLIN, WAKULLA,
, TAYLOR, DIXIE, LEVY, CITRUS AND HERNANDO, AND EXTENDS
APPROXIMATELY 10 MILES. THERE IS NO ATTEMPT, IN THE DESIGN
CTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY
ON OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENT TO ESTABLISH
APHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT

IAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS
MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES
GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED
THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE
ENTS OF DISTANCES OR AREAS.

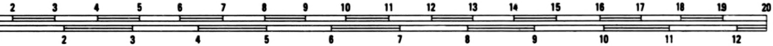
## PRIMARY SOURCES OF MAPPED INFORMATION:

**HYDROLOGY:** Potentiometric Surface of the Floridan Aquifer, Northwest Florida Water Management District, Tallahassee, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Suwanee River Water Management District, Live Oak, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Southwest Florida Water Management District, Brooksville, Florida, 1981.
Sea, Lake, and Overland Surges from Hurricanes (SLOSH) Model, National Oceanic and Atmospheric Administration, Silver Spring, Maryland, 1981.
Water Resources Data for Florida, U.S. Geological Survey, Tallahassee, Florida, 1979, 1980.
Water Quality Inventory for the State of Florida, Dept. of Environmental Regulation, Tallahassee, Florida, 1982.
Current Atlas of the West Florida Shelf, New England Coastal Engineers, Bangor, Maine. 1982.

**CLIMATOLOGY:** National Climatic Center, Asheville, North Carolina. 1981.

**FOR COMPLETE REFERENCES SEE MAP NARRATIVE**

1 625
63
1 650
64
1 675
30′


2
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14
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12

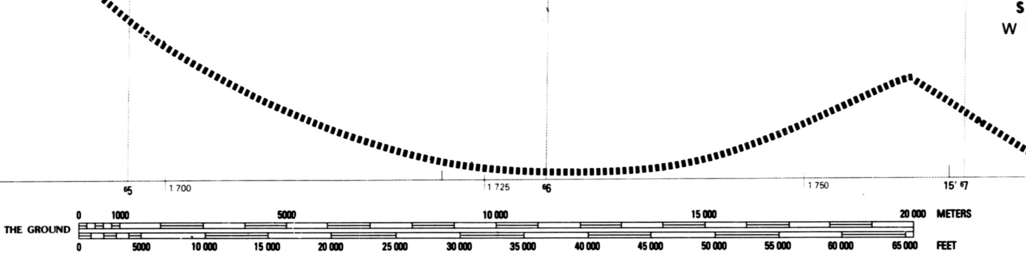
## SCALE 1:100 000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON

CONTOUR INTERVAL 5 METERS

**CLIMATOLOGICAL STATION**

1. **Pensacola FAA Airport**
2. **Milton Experimental Station**
3. **Crestview FAA Airport**
4. **De Funiak Springs**
5. **Niceville**
6. **Chipley 3 E**
7. **Panama City NE**


S
W
65
1 700
1 725
66
1 750
15′ 67
0
1000
5000
10 000
15 000
20 000
METERS
THE GROUND
0
5000
10 000
15 000
20 000
25 000
30 000
35 000
40 000
45 000
50 000
55 000
60 000
65 000
FEET

**NAMES**

8. Blountstown
9. Apalachicola Airport
10. St. Marks 5 SSE
11. Monticello 3 W
12. Cross City 2 WNW
13. Inverness
14. Brooksville Chinsegut Hill

▮▮▮▮▮▮▮ **U.S. GEOLOGICAL SURVEY HYDROLOGIC UNIT BOUNDARIES (Cont'd)**

Coastal Area between Ochlockonee and Apalachicola Rivers (130013)
Ochlockonee River Basin (120003)
St. Marks and Wakulla Rivers and Coastal Area between Aucilla and Ochlockonee Rivers (120001)
Aucilla River Basin (110103)
Coastal Area between Suwannee and Aucilla Rivers (110102)
Suwannee River Basin below Withlacoochee River excluding Santa Fe River Basin (110205)
Waccasassa River and Coastal Area between Withlacoochee and Suwannee Rivers (110101)
Oklawaha River Basin (080102)
Withlacoochee River Basin (100208)
Coastal Area from Tampa Bay to Withlacoochee River (100207)

▲ Q = ___ cfs
R = ___ in/yr

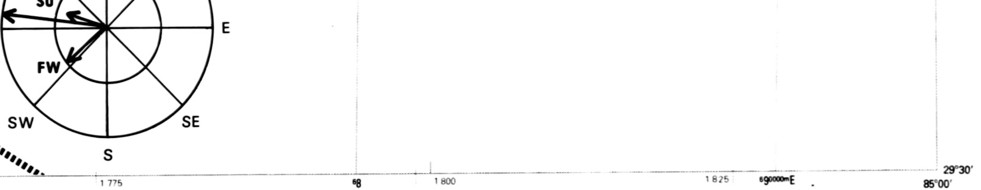
**U.S. GEOLOGICAL SURVEY STREAM GAGING STATION**

Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R

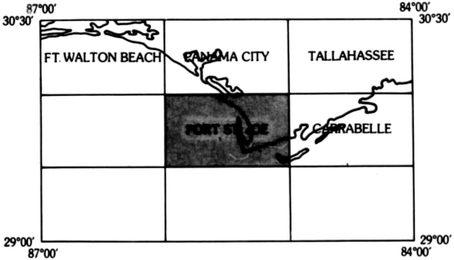
△ SC = ___ mmhos
Q = ___ cfs
R = ___ in/yr

**U.S. GEOLOGICAL SURVEY STREAM GAGE AND SURFACE WATER QUALITY STATION**

Mean Annual Surface Water Specific Conductivity (micromhos) = SC
Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R


SU
E
FW
SW
SE
S
1 775
68
1 800
1 825
690000mE
29°30′
85°00′

| | |
|---|---|
| △ | **FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION FIXED SURFACE WATER STATION**<br>(Insufficient period of record to establish a long term mean) |
| ○ SC= ___ mmhos<br>Cl= ___ mg/l | **U.S. GEOLOGICAL SURVEY GROUND WATER OBSERVATION AND WATER QUALITY WELL**<br>Mean Annual Ground Water<br>Specific Conductivity (micromhos) = SC<br>Dissolved Chloride (milligrams/liter) = Cl |
| S = ___ ppt | **MEAN ANNUAL COASTAL SALINITY**<br>(parts per thousand) = S |
| | **STUDY AREA BOUNDARY** |
| ▮▮▮▮▮▮▮▮▮▮ | Offshore |
| — — — | Inland (County) |
| — - - — | Inland (State) |


87°00′
84°00′
30°30′
30°30′
FT. WALTON BEACH
PANAMA CITY
TALLAHASSEE
PORT ST. JOE
CARRABELLE
29°00′
87°00′
29°00′
84°00′

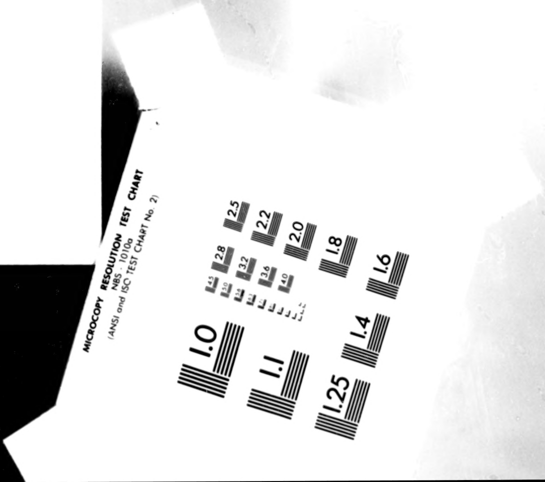
☐ Category #5 Storm ( > 155 mph winds; probability of occurence no historical record)

(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

**U.S. GEOLOGICAL SURVEY HYDROLOGIC UNIT BOUNDARIES**

- Perdido River Basin (14106)
- Perdido Bay, Inflow and Coastal Area (140107)
- Lower Conecuh River Basin (140304)
- Escambia River Basin (140305)
- Blackwater River Basin (140104)
- Escambia Bay, Inflow and Coastal Area (140105)
- Yellow River Basin (140103)
- Choctawhatchee Bay, Inflow and Coastal Area (140102)
- Pea River Basin (140202)
- Choctawatchee River below Pea River (140203)
- St. Andrews Bay, Inflow and Coastal Area (140101)
- Chipola River Basin (130012)
- Apalachicola River Basin (130011)
- Apalachicola Bay Coastal Area and Offshore Islands (130014)

MICROFILMED FROM
BEST AVAILABLE COPY


MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0

1.4
1.6
1.8
2.0
2.2
4.0